

REMARKS

Upon entry of this amendment, claims 57, 58, 60-63 and 65-68 are all the claims pending in the application. Claims 59 and 64 are canceled by this amendment.

Applicants note that a number of editorial amendments have been made to the abstract for grammatical and general readability purposes. No new matter has been added.

I. Claim Rejections under 35 U.S.C. § 102

The Examiner has rejected claims 57-68 under 35 U.S.C. § 102(b) as being anticipated by Masuda et al. (U.S. 5,398,078).

Claim 57, as amended, recites that the filter characteristic decided for each local region is compensated by comparison between itself and that obtained by averaging filter characteristics of plural local regions adjacent to a target local region. Applicants respectfully submit that Masuda fails to disclose or suggest at least this feature of claim 57.

Masuda discloses an image coding apparatus which functions to control a quantizer step size according to a property of image data (see col. 6, lines 13-17). In particular, for an image portion that does not include data which is important for visual observation, the quantizer step size is increased so as to reduce the code amount in that image portion (see col. 6, lines 21-24). Conversely, for an image portion in which visual deterioration is easily observed, the quantizer step size is reduced so as to increase the code amount in that image portion (see col. 6, lines 24-28).

In Masuda, in order to determine whether an image portion is important for visual observation, a "block activity" is calculated for each of the nine blocks shown in Figs. 2A-2C

(see col. 6, lines 33-36). A block having low block activity has little image variation, and a block having high block activity has significant image variation (see col. 6, lines 35-39).

In a block with large block activity, deterioration in image quality is not easily observed, and therefore, it is desirable to increase the quantizer step size in order to decrease the code amount (see col. 7, lines 21-25). In contrast, in a block having low block activity, deterioration in image quality is easily noticeable, and therefore, it is desirable to decrease the step size in order to increase the code amount (see col. 7, lines 24-28).

The "block activity" for each block in Masuda can be calculated by using (1) the differences between the mean value of values of the pixels in the block and values of the respective pixels, or (2) the sum of absolute values or differences between the adjacent pixels (see col. 6, lines 42-52). After determining the block activity for each block, each of the blocks is classified into one of four classes A-D according to the determined block activity (see col. 6, lines 58-64).

Next, when the central block shown in Figs. 2A is classified into the D class as shown in Figs. 2B and 2C, the classes of the other eight blocks surrounding the central block are checked in order to determine whether the number of blocks classified into the D class is less than a preset value or not (see col. 6, line 65 - col. 7, line 3). If the number of surrounding blocks which are classified as the D class exceeds a preset value, as shown in Fig. 2B, the central block is kept unchanged (see col. 7, lines 3-6).

Conversely, when the number of surrounding blocks is not larger than the preset value, as shown in Fig. 2C, the central block is changed from the D class to the A class (see col. 7, lines

6-11). Thus, in Masuda, the block activity classification of the center block can be changed based on the block activity classification of the surrounding blocks.

As noted above, claim 57 recites that the filter characteristic decided for each local region is compensated by comparison between itself and that obtained by averaging filter characteristics of plural local regions adjacent to a target local region. In the Office Action, the Examiner asserts that the disclosure in Masuda relating to conducting block activity measures including using "the mean value of values of the pixels in the block and values of the respective pixels used" corresponds to the above noted feature recited in claim 57 (see Office Action at page 4).

Moreover, the Examiner asserts that "mean value can be considered an averaging" and that Figs. 2A-2C clearly show that the "adjacent pixels which are used in Masuda are in plural local regions adjacent to the target local region" (see Office Action at page 4). Applicants respectfully disagree.

In particular, Applicants note that in Masuda, the mean values of the pixels and the values of adjacent pixels which are used to determine block activity for a given block are all located within a single block, not blocks adjacent to a target block. That is, in Masuda, when determining the activity for a given block, only the pixel values and mean pixel values within that given block are utilized to determine that block's activity.

Thus, while Masuda discloses the use of mean pixel values when determining block activity, it is clear that these pixel values are located within the single block which is having its block activity determined, and in no way whatsoever involve using averaged filter characteristics of adjacent blocks.

Moreover, in Masuda, as discussed above, while blocks adjacent to a central block are analyzed to determine whether the block activity of the central block should be changed from D class to A class, such a determination does not involve a comparison between the central block and averaged filter characteristics of adjacent blocks. Instead, as noted above, the determination simply involves determining whether the number of adjacent blocks classified into the D class is above or below a preset value.

In view of the foregoing, Applicants submit that while Masuda utilizes mean values of pixels when determining the block activity for a given block, Masuda does not disclose or suggest that a filter characteristic decided for each local region is compensated by comparison between itself and that obtained by averaging filter characteristics of plural local regions adjacent to the target local region, as recited in claim 57.

Accordingly, Applicants submit that claim 57 is patentable over Masuda, an indication of which is respectfully requested. Claims 60-63 depend from claim 57 and are therefore considered patentable at least by virtue of their dependency. As noted above, claim 59 has been canceled by this amendment.

Regarding claim 58, Applicants note that this claim has been amended so as to include the same feature discussed above with respect to claim 57. Accordingly, claim 58 now recites that the filter characteristic decided for each local region is compensated by comparison between itself and that obtained by averaging filter characteristics of plural local regions adjacent to a target local region. Accordingly, for at least the same reasons as discussed above regarding claim

57, Applicants submit that Masuda fails to disclose, suggest or otherwise render obvious such a feature.

In view of the foregoing, Applicants submit that claim 58 is patentable over Masuda, an indication of which is respectfully requested. Claims 65-68 depend from claim 58 and are therefore considered patentable at least by virtue of their dependency. As noted above, claim 64 has been canceled by this amendment.

II. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may best be resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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